ATHLETIC JOURNAL

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THE ATHLETIC JOURNAL

A PROFESSIONAL MAGAZINE FOR THE COACHES OF THE COUNTRY

JOHN L. GRIFFITH, EDITOR

VOLUME III MAY, 1923 NUMBER 9

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The ATHLETIC JOURNAL

VOL. III CHAMPAIGN, ILLINOIS No. 9

POLE VAULTING

BY

ELDON I. JENNE

Mr. Jenne, now on the coaching staff of Washington State College, Pullman, Washington, was chosen as a member of the All-American College Track Team in 1921, was a member of the Olympic Team in 1920, and holds the Pacific Northwest Conference vaulting record at 13 feet 1 inch. —EDITOR'S NOTE.

ONE of the most spectacular and difficult events in track and field meets of today is pole vaulting. This event formerly was obscure in athletics and the men who participated were awkward in form, but of recent years rapid strides have been made in vaulting until at the present time no event is more interesting or graceful than the pole vault. This unusual advance has been made possible by the use of the bamboo pole and through the development of newer methods in form.

First of all, a fairly rigid pole should be selected. One that will bend some, just at the time the vaulter makes the turn, and is pushing up and over the bar, and will straighten out with a snap that will add a much greater height to the vault is best. If a vaulter can find such a pole he will gain greater height, with less effort than if he uses one that is either too stiff or too limber.

A vaulter should practice sprinting so as to develop a uniform and smooth stride, as well as speed, and should practice running with the pole in the same manner and distance as in vaulting. A vaulter needs strong shoulders, arms, back, legs, and speed, in fact he should have good all-around development. He should also be a good gymnast —at least he should spend some time during the winter months in the gymnasium working on the bars and horses, climbing the rope, chinning exercises, walking on hands, etc. Out on the field, it is good to practice at all the field events for all-around development.

Illustration 1

The run should be about 100 feet long marked off with one or two starting marks. Personally, I am in favor of using two marks, since

the vaulter can thus check up on his stride at the second mark. One mark should be about 50 feet from the bar and the other about 100 feet from the take-off. In case only one mark is used, it should be at least 100 feet from the bar. In running the vaulter should lean slightly forward. The pole should point straight ahead and be about waist high or it may be pointed slightly downward (Fig. 1). The hand holding the pole in front of the body should be on top with the knuckles up, the other hand behind the body with knuckles down. The run should be smooth and the vaulter should take regular strides. Further, he should run in the same manner each time in order to get the proper take-off. The run should start slowly, and the speed should increase gradually until the second mark is reached, and from then on all speed should be used except that for the last two or three strides the runner should coast—that is, not try for greater speed, but carry through on the speed which is already attained. The vaulter should then gather himself for the take-off and vault.

Getting the correct step or take-off is most important in vaulting. First of all the vaulter must have done enough sprinting so that he can run the same at all times—in other words, he must have a regular stride. If the step is right a

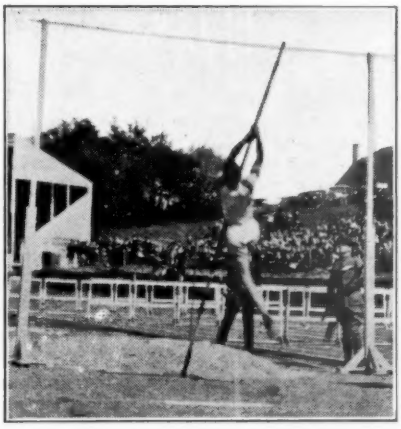


Illustration 3

good vault will result, otherwise not. The run should be so well regulated that the vaulter can go through each time without having to shorten or lengthen the stride for the take-off. If he has to chop or shorten the step in order to hit the take-off, all the speed and driv-

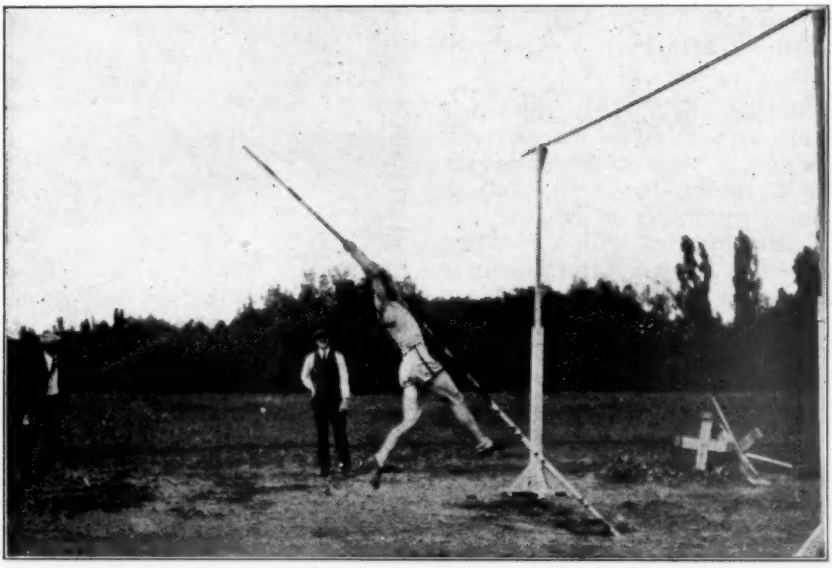


Illustration 2

ing force is lost, and he goes up in the air merely to fall back without getting up to the bar. If the stride has to be lengthened, the vaulter will find himself lunging against the pole, which checks the momentum and throws him out of balance —consequently he does not get far off the ground. If it is found that

Illustration 4

in order to reach the take-off, the stride must be lengthened, he should move the starting marks up closer to the bar. In case of having to shorten the stride, the marks should be moved back. Much practice will be required before the correct take-off is worked out. It will pay all vaulters to spend a good deal of practice on this one thing, viz.: the shifting of the starting marks until the right ones are found. Once these marks are worked out and are correct, they may be used year after year with little change. My own starting marks, for example, are 60 feet and 95 feet. I start back about 105 feet, hit the 95-foot mark with my left foot, continuing on slowly but gaining in speed, and hit the 60-foot mark with my right foot going at nearly full speed. These same marks have been right for several years. The vaulter must always remember, however, to move his marks back a little as the bar is raised. Also, in running against a strong wind, or on a slow track, he should remember to move the marks a little closer and vice versa.

The vaulter should keep his eye on the box in which the pole is to be placed and not on the bar. For those who run on the left side of the pole—as the right foot comes forward for the last time, shove the pole in the box, at the same time sliding the left hand up to the right one. Then as the left foot strikes the ground, the arms are thrown overhead, forming a right triangle—pole, body, and the ground; the pole being the hypotenuse. The arms are now nearly straight, the left foot is on the ground—while the right leg is swung straight forward and upward (Figs. 2 and 3). Then both legs are brought up above the head as the vaulter swings on and up-

Illustration 5

ward (Fig. 4). The left leg then passes the right, and a sharp pull up with the arms together with a quick turn of the body to the left takes place; then the right leg passes the left again. This puts the vaulter in a position with his stomach toward the bar, feet high in the air, about in the position in which a man would be, when making a hand-stand. The pole is drawn in under the body at this time (Fig. 5). A push-up from the pole with the arms raises the body over the bar (Fig. 6); this is the time that the pole should straighten out, giving greater height to the vaulter with its snap. The arms are then quickly thrown up and behind the head, so as not to touch the bar (Fig. 7). The pole should be perpendicular to the ground and should nearly touch the bar before it is released.

Illustration 6

The vaulter should light on both feet if possible, bending the knees so as to break the jar. If off balance, when landing, double up and roll backward to avoid mishaps.

The standards should be set about six inches into the pit, ahead of the box, or on an even line with it. This varies for different vaulters. The greatest height is usually reached after letting go of the pole, so it is important that the standards should be at least a little in front of the box.

In vaulting at above eleven feet hold the upper hand on the pole six inches or so above the height of the bar. As a greater height is reached the upper hand is held beneath the height of the bar; this

Illustration 7

will vary for different vaulters—some hold the pole as much as a foot and a half below the height of the bar. A vaulter with plenty of speed may take a higher hold on the pole; while one who has a strong pull-up and not so much speed can do just as well with a lower hold.

The jumping pit should be filled with sawdust or shavings, which should be piled a foot or two above the level of the ground so as to have a good soft place on which to light. Always keep the pit well spaded up.

The vaulting box should be flush with the ground, so as to avoid injury in case the vaulter should strike it in lighting. A wooden floor to the box is better than just the ground and it should slope slightly downward.

(Concluded on page 46)

DISTANCE RUNNING

BY

ART SMITH

Mr. Smith began his coaching career in the Buffalo High Schools. Later he was track coach and trainer at Williston Academy. In January, 1911, he went to the University of Maine as trainer, track coach and assistant in football, where he remained for six years. After leaving Maine Mr. Smith coached at Colby College, Tufts College and the Michigan Agricultural College. He is now track coach at Iowa State College, Ames, Iowa.—EDITOR'S NOTE.

TRAINING for distance running depends a great deal upon the individual athlete. If I or any other coach were to take a group of fifty college men who aspired to be distance runners and put them all through the same system of training and required them all to run the same distances only a few would benefit from the training. Many of these men would be worked too hard, others would not get enough work, some would require work for speed and others work for endurance. In fact, if all of these men were worked alike the truth of the old adage that "what is food for one man may be poison for another," would be proven. In fact, after fourteen years of experience in coaching distance runners both in the east and west, I am quite sure that it is impossible for anyone to lay down a set rule for training distance runners. The coach will get the best results if he will study each individual runner and determine just what sort of work suits him best. In making this study the coach should encourage the boy to study himself and to suggest to his trainer what kind of work makes him feel the strongest and gives him the greatest speed and endurance.

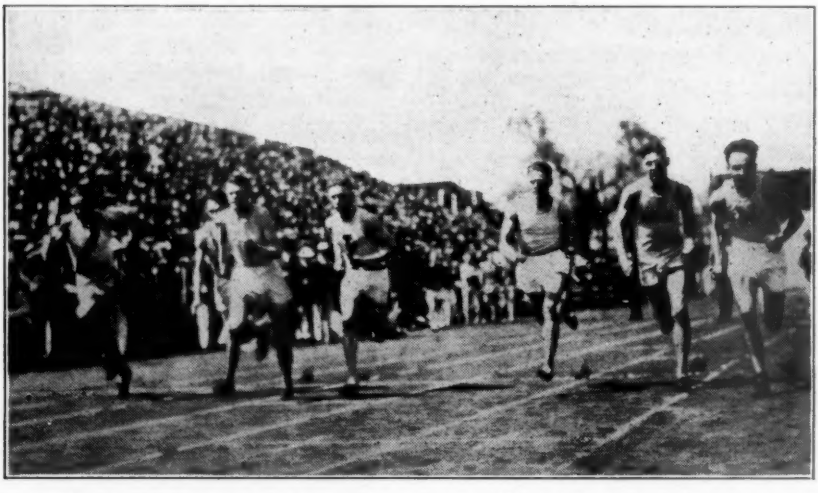
On this subject of distance running I have some very definite opinions especially as regards secondary school athletes. To begin with I do not believe that a boy should do much distance running before coming to college. Whether he starts in high school or in college he should be given a good examination by a capable physician, preferably one who has been an athlete himself or has had some experience in handling athletes. This examination should show whether his heart is sound and whether the boy's general bodily development is such as to warrant subjecting it to the strain of running distances. Distance running is quite largely a test of endurance and the boy who is under-developed or the boy who has a weak heart should not be allowed to enter these events. Such a boy may better devote his time to participation in some form of systematic exercise in the open air that would have for its object the building of a stronger and better

"Deak" Walters, winner of 440 and 880 yard runs in the Western Conference Meet, 1922.

body. In this connection one reason why so many high school stars fail to make good in college is that they ran too much in high school, and consequently are "burnt out" when they should be at their best.

One thing more—boys should not take up distance running as a sport and I do not favor distances of more than a mile for any high school boy.

Assuming then that the material under consideration consists of college or club runners who have had no previous training or experience, I would advise that they follow a course of training that will include a good deal of cross-country walking and running in the fall and winter months. It is well to start training just as soon as the days begin to get a little chilly in October. The first work should consist of cross-country walks. These should be taken every day, but every other day the work should be comparatively light. As the men become accustomed to this training they should combine cross-country walking and cross-country running —that is, run a little and then walk some distance. This work should be kept up until the men can run three miles at a moderate clip and finish up without being exhausted. This form of training supplemented with some work in the gym that will build up the upper bodies of the men should be continued throughout the winter months and should be followed by a good rest of three weeks at the end of the winter period of training.



Early in the spring some preliminary work, which has as its object general condition, should be taken. There is nothing better than cross-country walking and running for this. As the athlete gains in strength he should be gradually pointed for his event. If it is the mile he should run a mile and quarter three times a week. This should be run at moderate speed and the man should always finish in good condition. As he gets better and stronger he should increase his speed so that he can cover the distance in better time and still finish in good shape. On the other three days of the week I would advise walks for the first three weeks training. After the first three weeks of training these "walking" days should be used for speed work. By this I mean he should run a shorter distance at a faster clip than he uses when he runs the mile. A sprint is very necessary, for all things considered it is the "hop" 'at the finish that brings home the bacon. The same plan of training that I have outlined above for the mile may be applied to the half or the two-mile or any long distance event.

In conclusion the following suggestions are worth noting: 1. Attention to diet is highly essential in training for distance running.

(Concluded on page 43)

BATTING

BY

JOHN R. BENDER

After being graduated from the University of Nebraska where he won several letters in football and baseball, Mr. Bender played baseball with Little Rock in the Southern League. Later he caught in the Western, Pacific Northwest and Pacific Coast Leagues. He is now Physical Supervisor of the Public Schools and Playground Director, Knoxville, Tennessee.—EDITOR'S NOTE.

THERE is perhaps nothing in baseball that furnishes such a thrill both to fans and players as a "ripping hit" or a "slashing drive." There are probably more sensational fielders than real high class hitters. This article will suggest what are some of the requisites of good batting.

First: To be a good hitter or to develop into a good hitter (and hitters *do* develop), the man in question must have courage and this means a fearless stand at the plate, the confidence that he is better than the pitcher, the will power to hit at any cost, together with the belief that he can hit. If an athlete has this confidence, other things being equal, he has the edge on the pitcher and this not only helps him to fatten his batting average, but likewise his confidence affects the entire team. Further, a confident, fighting team affects favorably the man at bat and has the reverse influence on the opponents.

Second: In order to hit, the batter must have a good eye. This does not mean solely that he must have good eyes from a physiological and anatomical standpoint, but further that he must be able to use his eyes in the right way. Many players swing the bat at the ball, but they do not pay enough attention to keeping their eyes on the ball—that is, they take their eyes off the ball too soon, whereas they should watch the ball from the time it leaves the pitcher's hand until it is hit or in the catcher's mitt. In this connection the ambitious player will study the opposing pitcher's delivery not only when he, the batter, is at the plate, but also when he is on the bench.

Third: The stance in batting is just as important as the stance in golf, football, boxing or any other sport. In fact, the batter should know not only how to stand but where to stand. The man at bat should not pose, should not set his muscles, should not relax too much, should not straddle and should not stoop too far forward. On the other hand he should stand up and should assume a comfortable and easy position and be ready to glide into the swing from a perfect balance.

Fourth: Following the proper position at the bat, the batter should next consider the matter of co-ordination. A good hitter as a rule is graceful in his movements, he wastes but little energy on extra motions but he resembles a well oiled and regulated machine. His body, legs, arms and wrists must all work together. There must be no jerks or delayed action. The explosion or culmination of his efforts must be instantaneous in every detail. I tried to tip off one of my best players a year or so ago to a big league scout and called the scout's attention to the player when he was at bat. This player had a bad habit of lifting his leg preparatory to a swing. As he did this the old scout said, "That fellow must be a pitcher as he winds up to hit." As a matter of fact the player was a third baseman and a

(Concluded on page 43)

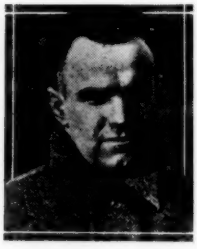
LACROSSE

BY

RALPH G. LEONARD

After being graduated from Springfield College in 1917 *Mr. Leonard accepted the position of Athletic Coach at The Polytechnic Preparatory Country Day School, Dyker Heights, Brooklyn, New York. The war took two years of his time as Mr. Leonard served as First Lieutenant. He has coached three successive championship wrestling teams, two championship football teams and has won the lacrosse championship once.*—EDITOR'S NOTE.

HISTORY



CONTRARY to the prevalent opinion Lacrosse did not originate with the American Indian. The game was brought to this country some nine hundred years ago by the Vikings, it being their national game. The Indians took up the game and as endurance and strength were the chief physical characteristics of the Indian race, the game which they played was developed along these lines. For instance, the whole surrounding countryside, the distance between villages, was their field of play. After the teaching of the game to the white men who settled in Canada, the sport was developed along more scientific principles. When a minimum sized field was universally accepted, it necessitated team play and skill in footwork and passing.

POPULARITY OF SPORT

Lacrosse is now the Canadian national game and is being played with a decided increase of interest in England and the United States. It was felt at first that the general character of the game would allow so much rough play that it would be impossible for the game to be universally accepted by preparatory schools. However, expert refereeing, proper spirit, and knowledge of the game have made it possible for schools to enjoy this spectacular sport.

Facts taken from the history of the sport, locally and internationally, prove that the sport is not a dangerous one. For the past two years there has not been a single serious injury in lacrosse here at our school, whereas there have been a dozen in other sports. No accidents of any nature occurred during the Oxford vs. Cambridge game across the water last year.

The sport has become so popular intercollegiately that the U. S. Lacrosse League finds it necessary to organize another division to its league. New colleges are entering the field every year, among them being Rutgers, Princeton, Columbia, and N. Y. U. Through New England, colleges are ready to take up the sport. The average attendance of four intercollegiate lacrosse games at one university last spring was two-thirds greater than the best attendance at their largest baseball game. One reason for the unprecedented increase in the interest of the sport is the joy and thrill of personal contact which is lacking in the other spring sports.

HANDLING THE LACROSSE STICK

Hold the butt firmly in the left hand (vice versa if left handed) and hold the crotch of the stick loosely in the right hand. Stand in a naturally relaxed position with the weight evenly distributed.

PASSING THE BALL

The ball should be kept at all times about a foot from the broad

end of the stick. Let your arms have free movement. Draw the stick well over the right shoulder (vice versa for left handed men), turning your body to accompany this movement, then bring the stick forward in a nearly perpendicular position, and let the ball pass out near the corner of the stick adjacent to the high side of the frame. As the ball leaves the stick, give the stick a slight jerk backward. This accentuates the speed of the ball. Just as the ball leaves the net, draw the butt of the stick slightly toward the body. In the pass the muscles of the back should come into play, and a step forward with the leg on the opposite side of the throw, should be taken. Follow through with your shot.

In checking an opponent, cross up instead of down as it gives a chance to recover the ball before it hits the ground.

THE SHORT PASS

The pass should be made while in motion at any speed and in any direction. It should be short, snappy, and accurate. The underhanded "shovel pass" is the type of pass most generally and satisfactorily used. All passes should be made in anticipation of where your team mates will be.

THE LONG PASS

This pass is made nearly on a straight line to the player who is to receive. The over-the-shoulder or "sling-toss" type of pass is the best, although it should be made as flat as possible to permit receiving while the receiver is in motion.

PASSING BALL WHILE IN PLAY

Do not pass the ball too soon as this gives a defensive man a chance to intercept it. Sprint or break in your running so as to lose the man guarding you, and by advancing you are ready for a return pass.

PICKING UP THE BALL

Approach the ball at any speed, and when near enough to get the ball under full control, bend over naturally with the end of the handle not directly in front of you but to one side and scoop up the ball. When the ball enters the stick it should be for the position of the pass. Movements are as follows: quick bend, a scoop, the rocking cradle motion. The stick must be held firmly with both hands if an opponent is after the ball.

DODGING

The first thing to learn in dodging is to make your opponent hit at your stick. When he does this, very little effort is required to pass

A player should wrap himself around the opponent but should keep his balance.

around him. As he hits your stick or attempts to hit it, draw yourself away, allowing the opponent who expected resistance to lose his balance. The stick should be kept low to protect the ribs. The methods of dodging are as follows:

1. Make opponent hit at your stick in rushing at you, drawing away as he attempts to do so.

2. Toss the ball over the opponent's shoulders; this draws his attention to that side, while you pass around on the other side and recover the ball.

3. Pass on one side, hit, roll or

bounce ball by on opposite side, and recover behind him.

4. Approach at a moderate pace, feint as if you intended to pass one way and run close around him on opposite side.

The success of these dodges depends upon the speed of execution.

CHECKING—STICK, BODY AND FEET

It is possible to check in these three different ways and although the first two are most commonly used, checking with the feet is just as effective.

STICK CHECKING

This is done by striking, pushing aside, or lifting an opponent's stick to prevent his using it for the time being. This is done by means of the stick. The lift up or check up is the most efficient. This does not come naturally; the method must be developed.

When paired off against an attack man, determine whether he shoots from the right or left side. Shots cannot be made easily from the opposite side unless the stick is changed to the other hand. In covering, a man always stands on the side from which the ball must be shot. In checking the ball as it leaves an opponent's stick, cover the spot where the ball passes out of his, with your stick. When you do this your stick should be in such a position that when the two sticks come together yours would slide down the other.

BODY CHECKING

When your opponent has arrived within six feet of the ball, and you desire to use the body check, give him a modified football check. Hit your opponent just above the hips, head over on one side, opposite knee thrust forward and around to the other side. The other leg should be well back, to brace, with weight equally distributed.

FOOT CHECKING

When outnumbered and alone the ball should be kicked away while the actual checking is done with the stick. If a "pick-up" or scoop is missed with the stick, it is often expedient to drive the ball out of a scrimmage into a clean space, thus making an opportunity for another attempt.

THE TEAM

Twelve men comprise a lacrosse team. The following positions are generally played in a straight line

(Continued on page 38)

THE PHYSICAL DIRECTOR OR COACH IN THE FIELD OF THE PHYSICAL SUBNORMAL

BY
GEORGE T. STAFFORD

Mr. Stafford is Assistant Professor of Orthopedics and Physical Diagnosis at the University of Illinois. He graduated from Springfield College in 1917 with the degree of B.P.E. He specialized in Medical Gymnastics and was granted a scholarship at Clark University for further study. When the war was declared he applied for aviation, and then accepted a position as Physical Director at Brookline High School until his application should be accepted. In March, 1918, not having heard from the aviation department of the U. S. Army, he enlisted as Physical Director with the Massachusetts Homeopathic Hospital Unit and went to Camp Dix. Here he was assigned to the Orthopedic Department where he served until July 1, 1918, going then to Mesves Hospital, Center, France, where the Orthopedic work was in charge of Dr. Joel Goldthwait of Boston. In March, 1919, he was transferred to the A. E. F., University at Beaune, France, serving as a physical director under Major W. N. Howard. In June, 1919, he was transferred to Paris for the Inter-Allied Games, serving here under Colonel Johnson. In August, 1919, on his return to the United States, he continued his orthopedics work in a college devoted to individual gymnastics and physiological games for the physical subnormal. He was Director of the Exercise Department of Caines College of Physical Culture, Inc., Boston, Mass., until January, 1923, when he took up his work with the University of Illinois.—EDITOR'S NOTE.

PHYSICAL education, up to 1900, had for its aim the development of musculature. Prominent biceps and gastrocnemius muscles were considered evidence of good condition. Even before the Great War this idea had passed out and the fundamental objective of physical education was generally accepted as that of functional and organic strength or development. Since the war, physical education has leaped to the front with tremendous advancement.

With this advancement an apparently new phase of physical education has been more highly developed, namely: Physiotherapy. This field includes the following:

1. Massage.
2. Electrotherapy.
3. Mechano-therapy.
4. Hydrotherapy.
5. Medical gymnastics or orthopedics.
6. Occupational therapy.

Physiotherapy was used extensively in the army with very gratifying results, the period of convalescence being considerably reduced by physiotherapeutic methods. It has been found successful in treating the thousands of deformed children who have been afflicted with infantile paralysis. Complete restoration of function in these children is not always possible but by persistent treatment, the child is able to use his body almost normally, thus preventing many dependents upon the state, and, in a great many cases, restoring hope and ambition to a boy so that life has an outlook really worth while to him.

Orthopedics or medical gymnastics and massage are branches of physiotherapy, which in turn is a branch of physical education. The use of massage and therapeutic exercises is not new. The history of massage and therapeutic exercise dates back to the early history of man. The Chinese about 3000 B. C. knew the stimulating effects of exercise on the body fluids and their book "Cong-Fu," which is sup-

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ATHLETICS AND MORAL TRAINING

The place of moral training in the public schools was emphasized by Principal Charles C. Tillinghast of the Horace Mann School for Boys, New York City, in an address delivered at the annual meeting of the National Association of Secondary School Principals in Cleveland this winter. Mr. Tillinghast said in part: "I have seen grow in the minds of men I have known intimately and with whom I have worked in the secondary field, a feeling that we secondary school men have a distinct responsibility for moral education in our public schools. The feeling that has come to me is this: That because of a variety of causes we are right now confronted by a serious situation which calls for the best that every man can give in whatever situation he finds himself, to develop certain qualities in our American life; and the high schools of the country offer a field which is more fertile than almost any other field that one can mention for the development of these certain high qualities. There has grown the feeling that we high school principals cannot escape the responsibility as indeed most of us would not, of giving moral education."

This view of Mr. Tillinghast's coincides with the views of other speakers at the recent N. E. A. convention and indicates that educators of today are not solely concerned with giving information and with the development of the student's intellectual powers, but also are committed to the task of developing moral qualities in the boys and girls of today, who tomorrow are to be entrusted with the responsibilities of society. This conception of the field of education is of prime interest to every athletic coach because he has an unexcelled opportunity through the medium of athletics to contribute to the moral education of the schools and the nation.

This is an age of tests in the educational world but the many intelligence tests do not test certain moral qualities which are necessary factors for success. In fact, it is doubtless true that many of the criminals in the penitentiaries, many disloyal Americans and many of our undesirable citizens are capable of passing satisfactory mental tests. Some very much worthwhile qualities which are not stressed in the intelligence tests may be emphasized in athletic training. Some of these attributes of life are courage, respect for authority, co-operation, unselfishness, loyalty, devotion to a cause, respect for law, fair-mindedness and sportsmanship. The athletic coach has a far better chance to place a premium on these elements of human nature on the athletic field than has any other instructor in the class room. This is true not only because of the character of his work, but further because his pupils exemplify the lessons which they have learned before the other students and before the public.

Athletics should be accepted as a tremendously important part of the educational whole if we agree that moral training has a place in the

schools and colleges. In fact, many are coming to the conclusion that the greatest service which the athletic coach can render is in the realm of moral training.

INTERCOLLEGIATE VS. INTRAMURAL ATHLETICS

Attacks are frequently made upon highly organized athletics by physical educators who are interested in extending the benefits of athletic training to larger numbers of students. No one can take issue with any man who is committed to the task of broadening the field of athletics. We are all agreed that physical training for the rank and file of students in the schools and colleges has been sadly neglected, but when some man advances an argument either directly or by implication to the effect that by curtailing or abolishing intercollegiate athletics we will thereby develop intra-mural athletics, we may well challenge the logic of his argument. It is just as logical to suppose that if intercollegiate football were abolished that the students would then be just as much interested in Latin as they now are in football. Everyone who is capable of thinking at all knows that this is not true. In short, if these men would devote the same effort to building up intramural athletics that they now waste in attacking the intercollegiate system, more good would be accomplished.

The best intramural sports, that is the sports that attract the largest number of students to the extent that they participate in the games are the contests that are most commonly found on the intercollegiate program. Take soccer for instance by way of contrast—it is a splendid game in that the rules are comparatively simple, the novice as well as the star can play it and have a good time while playing, it does not require expensive equipment and it calls for speed, skill and endurance—yet soccer taken throughout the schools and colleges has never as yet been given a place in the sun as an intramural sport and never will be as popular as baseball and basketball until it is made an intercollegiate game. Further, it is far easier to promote intramural athletics in a college where the varsity teams are reasonably successful than in an institution where the teams have only mediocre success. This is easily explained because the college teams serve as an ideal and act as a stimulus to the men who are not qualified to play on the five, the nine or the eleven.

The athletic coaches have done more to build up physical training facilities for the student bodies of the educational institutions as a whole than all of the opponents of intercollegiate athletics have done. They have labored to have physical training made compulsory, to build up intramural athletics and as a class they have acted the part of salesmen who took pleasure in selling a commodity the utilitarian value of which they never questioned. Of course, there are some who never were actuated by the ideal of service, but this may be said of other instructors in other departments and yet who would deny that the great majority of teachers have been impelled by the highest motives. It is hardly necessary to add that most of the money which has been used to further the intramural work has been raised by the men in athletics rather than by those who would tear down the bleachers and discharge the coaches.

In conclusion, let it be said that the athletic men of the nation have a great work to do. The responsibility rests on them of seeing that both intercollegiate and intramural athletics are developed and above all they have a chance to contribute in no small degree to the moral training of all of the students.

THE PHYSICAL DIRECTOR OR COACH, ETC.

(Continued from page 13)

posed to have been written about that time, deals with prescribed movements. The Egyptians and the Greeks also used prescribed movements and manipulations for the cure of many diseases. The Romans found that prescribed exercises and massage counteracted, to a large extent, the bad effects of the effeminate luxury of one period of their history.

It was not until the elder Ling took his idea from Guts-Muths that we have a tangible medical gymnastic system. His son Hjalmer Frederick Ling classified exercise and massage as follows: Exercise being a movement done with a part of the body and massage being a movement done upon the body. With this and his "Day's Order," medical gymnastics really took its place in the scheme of physical education.

The history of this work is not important from the time of Ling's son until Dr. Brown of Harvard made his examinations on the freshmen of Harvard University in 1916 and found that 80 per cent of the freshmen class fell below the normal standard of development. Then the draft report showed us that our nation had almost one-half of its young men classed as defective. The realization was brought to physical educators that more work of a corrective or orthopedics nature must be done if health, physical versatility and stamina are to be characteristics of the American peoples.

The fundamental objective of physical education is to increase the physical vigor of the nation, but this vigor must not reside in a small number of highly trained athletes only. The masses must be endowed with these qualities. Mass games, intra-mural activities and various other fine phases of physical education are doing a wonderful work in bringing the nation up to its rightful place in the physical world but beyond this is a field which is only being scratched, namely: The field of the subnormal.

This field is not confined entirely to the treatment of flat feet, lateral curvatures of the spine and round shoulders, but it takes in the various functional and organic disabilities which generally excuse a boy from physical training. The boy with a mitral insufficiency of the heart can do a number of exercises and engage in a surprisingly large number of activities if the physical director has the knowledge of medical gymnastic work which will acquaint him with this condition. The small army in the constipation group can be helped if not entirely relieved of this defect, providing the physical director knows his field. The boy with a hernia, for which he is advised to refrain from "violent" exercise, can be relieved by medical gymnastics. The proper care of a sprained ankle comes within the realm of the physical director and joint disabilities can be given proper physiotherapeutic treatments which will reduce, to a marked extent, the boy's period of confinement. After-treatment in cases of broken bones and fractures is taken care of by the medical gymnast and the prevention of limiting adhesions will generally result.

Medical gymnastics covers a broad field of physical education. It recognizes that physical education should develop the "Athlete," but it reaches out still farther to the amazingly large number of individuals who have some minor defects which exclude them from the ordinary gymnastic or athletic program. The object of this work is to bring the majority of boys and girls, men and women, to the highest standard of physical fitness.

Why then is the field of physical education neglecting this important

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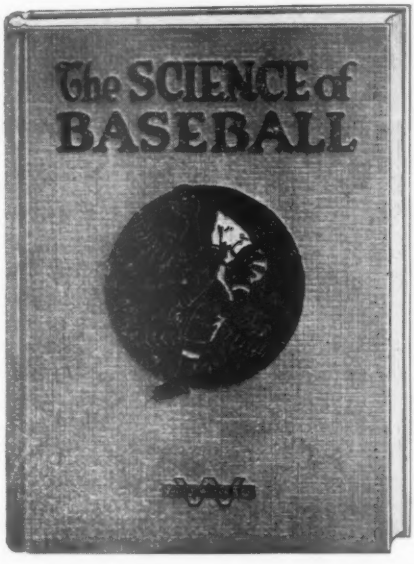

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STEEPLE CHASING

BY

HARVEY W. COHN

National Senior Champion, 1905.

Mr. Cohn was a member of three Olympic teams viz: the teams that competed at St. Louis, at Athens, and at London, 1908. He won the military-metropolitan, Canadian and national championships from the half mile to the six mile cross country run. He is now track coach at New Hampshire State college.—EDITOR'S NOTE.

STEEPLE-chasing in the writer's opinion is the hardest and most difficult event that we have on the Olympic program, both as regards training and competition. This assertion will bring forth all kinds of arguments from followers of other events on track and field, but when it is remembered that steeplechasing consists of high hurdling, jumping four foot stone walls, clearing twelve foot water jumps with two foot six inch hedges in front of the jump and clearing from fifty to sixty of these obstacles during a two mile race, the reader will, I feel sure, give me the benefit of the doubt. Out of the past sixteen National championships, twelve of the steeplechase events have been held on the New York Athletic Club grounds in New York. Eleven laps on the inside of the cinder track on this course measures two miles. The first two obstacles that are jumped are three foot hurdles with heavy brush placed on top. These jumps are at the first bend of the course. In the middle of the back stretch is a two foot six inch solid fence with brush on top, and a twelve foot water jump on the other side. At the other bend of the track there are two three foot hurdles with brush on top and in the middle of the stretch there is a four foot stone wall. This completes the obstacles that have to be cleared, making a total of sixty-six jumps in the course of two miles. In this event a man must combine the speed of a middle distance runner, the stamina of a cross-country harrier, and the ability of a hurdler.

Steeplechasing is always the main attraction at international meets. In cross-country races in Europe there will always be found hedges, stone walls and water jumps, this provision making possible athletic training for the steeplechase events and this is one of the reasons why the English always make a show of the rest of the field when the Olympic games are held. To the best of the writer's knowledge the steeplechase has never been held at any games in this country except once a year at the New York Athletic Club games and then only a small field starts. If promoters of athletic meets would add this event to their programs, it would prove a benefit in a financial way and would also be a boon for the sport.

In training for this event I would suggest that a man should train as if for the three mile run, and in working for the jumps, high hurdles should be placed at intervals as stated above. For the water jump, a spot marked out twelve feet long and six feet wide with white cord might suffice, and a two foot six inch plank about four inches wide at the top, braced strongly in front, for the landing at the other end of the supposed water jump might be used. Bags of straw should be laid on the other side to land on. For the four foot wall a frame work made out of two by fours with a top from six

to eight inches wide is sufficient. The front of this supposed stone wall could be boarded up to make the obstacle look like a wall. The rules state that all obstacles must be cleared, but an athlete has the option of climbing over the wall or clearing it without touching it. This latter method is the proper way as thus no action is lost.

In training for the jump, I suggest that when a man approaches the three and one-half foot hedges, he should go at them strongly and not start cutting down his stride for fear of coming a "cropper." Thus he will clear the obstacle and break himself of a very bad habit, for during the hard race, he will tire and by shortening his stride he will not get the proper take-off and will end up by crawling over the hurdle. When approaching the water jump, he should train himself to step on the small obstacle with one foot and make a jump that will clear the water. This is a very important point as it is impossible to clear the hedge and water jump at the same time. To do this requires a jump of at least fifteen feet, and with eleven jumps over the water jump besides the other obstacles, it would be an impossibility for the average man to accomplish. When the writer won this event in 1905, he made it a strong point in his training to clear the water jump on each lap. The other competitors always fell short of the jump and received a ducking. In coming to the four foot wall, a vault over with one hand touching the top will clear you.

Two days set aside a week for training over the jumps should be enough and at the start of the training, one should be sure not to overwork until the legs are accustomed to the extra strain in taking off and landing. The full distance should never be worked through. For long work a mile and a half is plenty and four or five days be-

(Concluded on page 47)

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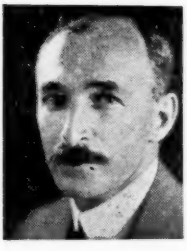
SOCCER FOOTBALL

BY

DOUGLAS STEWART

(This is a continuation of the article begun in the March number.)



THE kicking of the ball in soccer has been dealt with in previous articles. The different phases of controlling the ball after it has been set in motion, require consideration. Probably the most important phase of control is the art of trapping and blocking the ball. A knowledge of trapping is essential to enable a player to receive and propel the ball in midfield and to receive and intercept passes or kicks. Sound judgment is required as to the speed with which the ball travels and the curves and angles which it describes in its flight.

There are several methods of trapping the ball. Three of these, most easy of attainment, are trapping with the body below the ribs, with the leg from the knee down to the inside of the foot, and with the sole of the foot.

The first is applicable when the ball has bounced off the ground and risen to a height of about three and one-half or four feet, or when the ball is traveling above the ground at this height, or when it is advisable to gain control of the ball in its descent from a height before it reaches the ground. In using this method the player, if the ball is coming toward him on the rise or on a level, permits the ball to come in contact with his body and immediately bends forward, causing the ball to drop at the player's feet, which, of course, are ready to dispose of the ball as the player desires. In receiving a descending ball the same movements of the body are used, with the addition of impelling the body sharply forward.

The second method is used in the endeavor to gain control of a ball traveling with a low flight or on the ground. In using this method the player sets the receiving foot at a right angle to the line of flight of the ball, with the feet slightly apart, the weight mainly on the opposite foot. The heel of the receiving foot is raised slightly off the ground and the knee of that leg is slightly bent inward and somewhat over the ball when it comes in contact with the ankle and the inside of the foot. The inner bend of the leg has the effect of neutralizing the spin of the ball and causing it to fall or lie practically dead.

The third method is used particularly with a descending ball or a ball traveling on the ground or close to it. To use this method, the player lifts the receiving foot off the ground a distance of about six or seven inches and elevates the front part or sole of the foot to an angle of about 35 to 40 degrees. This applies particularly in trapping a ball traveling on the ground. If the ball is above the ground it is, of course, necessary to elevate the receiving foot to an extent sufficient to receive the ball and then immediately to drop the foot on the ball so as to bring it to the ground.

With a descending ball, it is necessary to put the foot on it at the moment it reaches the ground, or just as it starts to rise. This requires good judgment as to the probable action of the ball, for if the sphere starts to rise in the di-

rection of its flight, the trap is easy, but if the ball, by reason of a lateral spin or striking a tuft or other obstruction, has its course deflected, then the player, unless he has jammed his foot on the ball just as it hits the ground, is very apt to lose it.

The same judgment is required to an even greater degree in trapping by the other two methods. For in the second method, if the ball is allowed to rise and is deflected by reason of the spin or a tuft, the player is likely to find that the ball has passed over his foot or between his legs if they are set too widely apart. Here again judgment is required to trap the ball just as it strikes the ground and before it can rise.

All methods of trapping require the player to have himself nicely balanced on one foot, for if, say in the third method, he tries to put his weight on the ball, he not only places himself at a disadvantage, but is apt to be thrown. In any event he will require so much time to steady himself that a quick opponent can easily charge him over.

To acquire the balance necessary it is well for the player to practice what is called the "balance step." All players who have been in the army know how this is done. It may be acquired by standing on one foot, with the body upright and the chest expanded, and swinging the other leg through an arc, the toe being kept down during the entire swing.

It is well for the budding player to acquire his balance with the heel of the foot on the ground slightly raised. To the player who can stand on the ball and toes of one foot and swing the other leg with freedom, a greater ease in playing will be manifest.

In all three methods of trapping, the player stands with the heels elevated, the weight resting on the soles of the feet. As a matter of

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fact the real player during play never has his heels on the ground. As explained, trapping in soccer is a play intended to control an intercepted pass, a wild pass or a descending ball.

Blocking is another phase of the same play. Particularly is it used to stop the ball from going where it is intended by an opponent. The fullback uses blocking tactics when he is unable to use his foot in kicking or his head in heading. He usually tries to block the ball by getting directly into its line of flight after it has left the opponent's foot.

If the ball is low, the player simply puts his foot in position, with the heel down and sole up, to let the ball strike the sole and be grounded directly in front of him, when he immediately advances sufficiently far to put his foot to the ball and send it where he wants to. In case the ball is breast high, the fullback receives the ball on his chest and advances between the forwards, who are attacking, the ball being carried on the chest during this time by reason of the fullback coming forward fast enough to keep it there, until he is clear of his opponents, when the ball will come to the ground and he is then able to send it in the desired direction.

The halfback uses the block when he is up behind his forwards and when the opposing halves have taken the ball from the forwards and kicked it to one of their own forwards. In this instance the blocking is a phase of the intercepting tactics of the halves.

The forwards use the foot block when they are close on the opposing fullbacks for the purpose of neutralizing the fullback kicks in the effort to clear. By being close in on the fullbacks, the attacking forwards have many opportunities for blocking with the foot or trapping with the stomach.

The exercise of the ball-blocking tactics brings us to opponent-blocking tactics, where the effort is made to block an opponent in his endeavor to dribble, pass or receive the ball. To block an opponent, the player usually places himself in a position to prevent the opponent doing anything to or with the ball. Blocking an opponent does not mean charging. In blocking, there is always a space between the players, the blocker simply putting himself in position to prevent the opponent doing anything with the ball if he has it, or to prevent him from receiving the ball if he does not have it.

This is a play in which the halfbacks should take particular interest, for it is by his blocking tactics that the wing half prevents the wing forward receiving the ball on a long or even a short pass, although in the latter case it becomes somewhat of an intercepting move. The wing half should always be in position to prevent his opponent from receiving the ball.

Tackling is another phase of blocking and is defined as "putting one's self or a part thereof in front of a player who is dribbling the ball and either take it away or force him to get rid of it at a disadvantage."

Q. What form does Hubbard of Michigan use in the broad jump?

A. Hubbard does not rise very high in the air, but he travels very fast, both in his run and while in the air. He uses one kick when in the air but apparently depends mostly on his speed and drive to get his distance. Mr. Steve Farrell, the Michigan track coach, has promised to take some pictures of Hubbard and to write an article for the Journal describing his form.

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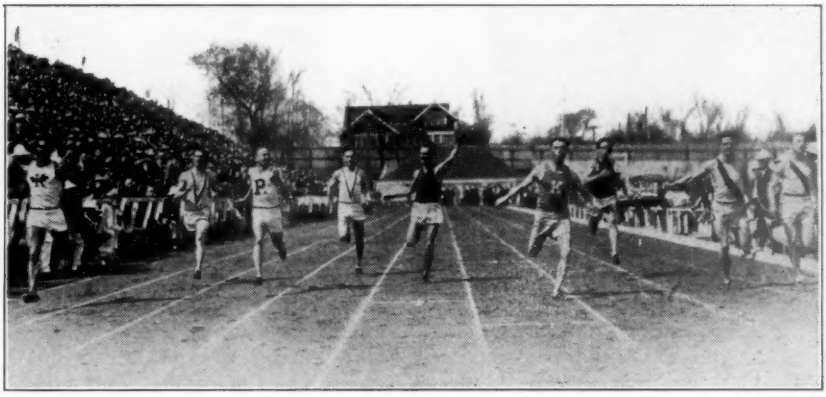
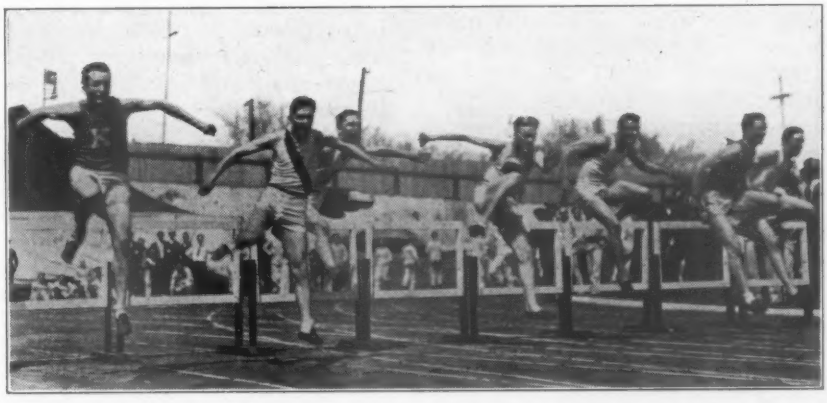


Irwin of the Kansas Aggies winning the 100 yard dash in the Drake Relays in 9 4-5 seconds. Ayers of Illinois was second; Williams of Kansas Normal was third; and Tykle of Purdue was fourth.

Poor of Kansas winning the high jump at the Drake Relays at the height of 6 feet 4 inches. The following men qualified in the preliminaries on Friday at 5 feet 11 inches: Dickson of Chicago, Wright of Illinois, MacEllvan of Michigan, Smith of Michigan, Campbell of Minnesota, Turner of Nebraska and Pence of Purdue.

Dean Brownell, winner of the pole vault in the Drake Relay Meet April 28th. The height was 12 feet 10 inches. The men who qualified in the pole vault besides Brownell were Collins of Illinois, Godby of Ames, McKown of Kansas State Normal, Rogers of Kansas, Billenbeck of Kansas, Prosser of Michigan and Mitchell of Washington. The qualifying height was 11 feet 6 inches. The pole vault in the Penn Relays was won at 12 feet 9 inches.

Platt of Denver University winning the discus throw at the Drake Relays with a throw of 138 feet 6¼ inches.



Towler of Minnesota winning the high hurdles at the Drake Relays. Time 15 1-5 seconds. Crawford of Iowa finished second; Frazier of Baylor was a close third; and Johnson of Illinois was fourth.

SCHOLARSHIP VS. PHYSICAL PERFORMANCE

BY
T. F. WEST
Department of Health Education
Detroit Public Schools

Is there a correlation between scholastic accomplishment and physical achievement? Does this question necessarily imply a like correlation between the degree of mentality and physical ability?

The degree of mentality is determined by an intelligence test, the result being expressed in an intelligence quotient. Is there any definite relation between the intelligence quotient and scholastic achievement? Which is of more importance, what a man is capable of doing or what he actually does? Does the intelligence test measure qualities necessary for successful accomplishment? Is the student a better athlete because of his scholastic ability or does his success as a student depend on his physical achievement or is there any relation between the two?

Up to the present time there has been so little research conducted along these lines that an answer to these questions cannot be given. So far it is very much a matter of opinion and conjecture.

If what G. Stanley Hall said thirty years ago—educate the muscle and you educate the brain—is literally true, would this not materially affect our educational program? If muscular and physical development and an increased physical performance will also increase mental accomplishments, will this not bring about radical changes in our educational plan?

The view of the conservative psychologist is best expressed in the words of Dr. John E. Anderson, of the Psychological Laboratory of Yale University.

Dr. Anderson says:

"There is a considerable body of evidence in the experimental literature that manual dexterity and intelligence are not closely related. I fail to see the value of a positive correlation between athletic ability and intelligence. We look upon intelligence as a native or inherited trait. If it is, physical training will neither increase or decrease it, however much it may help a man to use the ability he has by nature. It seems self-evident that an intelligent man with a good body is of more value to society than a man with the same degree of intelligence with a poor body. But the possession of a good body or a poor body does not affect the man's intelligence, even though it may affect markedly the manner in which he utilizes it."

Is native intelligence the most important thing or is the manner or method of utilizing that intelligence of greater import? Is the man with the high intelligence score necessarily the best student?

Men, who for a long period of time have been closely associated with athletes, appear unanimous in their opinion that a high correlation does exist between physical achievement and scholastic accomplishment.

Walter Camp says that there certainly is such a correlation, and that the same determination and persistence which make in the long run for real scholastic achievement, make, also, for physical accomplishment, and that the more intelligence an athlete has, other things being equal, the greater will be his success.

T. N. Metcalf of the University of Minnesota says:

"I made quite a study of the relation between scholastic achievement and physical accomplishment at Columbia University a few years ago. Data was obtained on about one thousand students of Columbia College.

There was found a rather high correlation between scholars and high grade men physically. But there was a rather interesting contradiction in extreme cases. For example the small group of high test men physically rated lower than the average in scholarship, while the small group of low test men physically rated higher than average scholastically. This, however, is easily explainable and taking the entire group into consideration there was a high positive correlation.

Do not confuse low mentality with poor scholarship. Although a small group of great athletes rate low in scholarship, I'll gamble that they will rate high in many mental or intelligence tests. In their case, poor scholarship indicates lack of interest rather than lack of mentality."

Major John L. Griffith, Commissioner of Athletics in the Western Conference, makes some interesting comments, especially with reference to the scholarly type of individual.

"I believe that there is a marked correlation between school work and athletics, but the big thing is to be able to prove it.

From studies that I have made, I am convinced that our Varsity team men average higher scholastically than the average student. However, I cannot say whether this is because they are required to pass their work in order to be eligible or because they are of superior intelligence.

I have come to this conclusion that our mental tests and physical efficiency tests do not measure many of the qualities which are necessary for success on the foot-

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ball, baseball or basketball teams, such qualities, for instance, as courage, ability to concentrate, poise and ability to think correctly instantly. In fact I have found that frequently the scholar type of man is not able to think fast enough to make good on a team. On his team he must play his hunch while in making the usual decision he has time to weigh the matter pro and con. Some would say that this kind of thinking is not necessary in our everyday life. It most certainly is necessary in war, in driving an automobile, in dodging street cars, etc."

Coach Andrew L. Smith of the University of California recognizes the value of the mental attitude in athletics. In a little booklet, "Mental Qualifications of an Athlete," addressed to the students of the University, among other things, he says:

"The college athlete should be a good student. It is a well known fact that the muscles are controlled by the mind. Therefore, the candidate for any athletic team will find that to win a place on the Varsity, the proper mental attitude will help him more than his physical fitness. The physical marvel without aggressiveness, obedience, concentration of mind, and determination cannot possibly become a high class competitive athlete.

Remember these four mental qualifications which will make yourself a success, and remember, also, the great necessity in making your team a success, harmonious cooperation.

Apply this psychology to your college work and to your life work after leaving college. It will help you."

On the question as to whether the more intelligent athlete is a better athlete because of his intelligence there is also a unanimity of opinion. The keen, intelligent athlete appears to be the choice of the coaches and trainers. Natural physical power becomes secondary for the muscle acting with the brain produces results which mere physical strength cannot produce in any line of physical activity.

Walter Camp thinks that there are certain athletic events in which muscular power is such a large proportion of success that it might be quite right to say that brains had little to do with it. How much more of a success this physical marvel might be had he brains as well as muscle to utilize!

Low mentality will prevent a man from reaching high accomplishment in any line of sport. The exception is the freak who glistens in the athletic firmament momentarily and vanishes as quickly as he came.

Glenn S. Warner, of the University of Pittsburg, gives an excellent opinion on the so-called "athletic flash" and makes a timely comparison.

"The best athletes, the ones who have made great reputations and upheld their championship form for lengthy periods, are well developed mentally. I would name Roosevelt a man who could not have attained and held the high place in the world which he did without having developed himself physically and I know of many good athletes whose brains make them top notchers, better than others with greater physical accomplishments but with little judgment, brains or balance.

There are many cases of extraordinary physical development with lack of a well balanced brain. There have been numerous cases of almost freakish physical prowess—athletes who could do wonderful things but they never lasted long, because they were merely flashes, they lacked balance."

Hugo Bezdek, of Penn State College, has always found that the best athletes had a good record as students.

"I find good scholastic accomplishments along with a good physique and good health. A good athlete today must have intelligence in order to be of real worth to his team. The sports depend more and more on the thinking powers of the individual as well as on the team collectively.

An individual of low mentality can never accomplish stardom, or be raised to the star standard. It isn't in the wood, so to speak. The nerves are slow, ideas come slowly, reacts too slowly. Coordination of mind and muscle must be quick and keen."

An investigation made during the year 1920-21 by a class in Educational Psychology at the University of Wisconsin gives some interesting figures on the scholastic standing of the members of the 1920 football team as compared with a like number of non-player students, selected at random, care being taken that the proportion of law students to academics should be the same in both player and non-player groups.

The results obtained were as follows:

	Team	Non-players
Law	82.7	84.68
Academics	83.67	79.58
Whole Group	83.12	82.46

In the Law group the non-players have a slightly higher scholastic average but in Law and Academics combined the record of the members of the team are higher.

Mr. Otto J. Fischer of the Philadelphia Schools, carried on an experiment with some two thousand four hundred pupils to find if there was any relation between the ability to pass a physical ability test based on average performances for the previous years, and the ability to successfully pass grade work.

The physical ability test consisted of a performance test in running, jumping and throwing.

As a result of his investigations Mr. Fischer comes to the following conclusions:

1. That there is a direct relation between the physical tests and scholastic results.
2. That the high classes physi-

(Continued on page 40)

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A YEAR'S PROGRAM FOR REQUIRED WORK

BY

JOHN L. GRIFFITH

(Continued from the March number)

65. Sixty-fifth Day.

A. Calisthenics.

a. Swing arms side-upward, 1. Three-fourths double arm circle left to both arms right sideward, 2. Return, 3 and 4.

b. Hands on hips. Place. Raise heels, 1. Bend knees deep, 2. Return, 3 and 4.

c. Combine Ex. 1 and 2.

d. Raise left leg forward and arms forward, 1. Bend stationary knee half deep, 2. Return, 3 and 4.

e. Stride stand hands on hips. Jump. Bend trunk left, 1. Return, 2. Turn to left, 3. Return, 4. Same right.

f. To lying rearways. Fall. Hands on hips. Place. Raise both legs forward and arms forward, 1. Straddle legs sideward and arms sideward, 2. Close feet and arms forward, 3. Lower legs and hands on hips, 4.

g. Deep breathing.

B. Game for Agility.

Crawl through legs. Formation—Column of files.

When the starting signal is given the first man is stationed six feet in front of the next man with feet straddled. The second man crawls through the first man's legs and comes up close to him in front with feet spread. The next man crawls through the legs of both number one and number two, coming up in front of number two. Each man in turn does likewise. When the last man is in position the race ends.

C. Mass Track and Field.

Standing high jump relay. Same as the running high jump relay.

66. Sixty-sixth Day.

A. Calisthenics.

a. Swing arms side-upward and clap hands, 1. Side downward and clap hands in rear, 2. Return, 3 and 4.

b. Hands on hips. Place. Place left foot backward, 1. Place left foot forward and bend right knee, 2. Return, 3 and 4.

c. Combine Ex. 1 and 2.

d. Stride left forward and arms forward, 1. Lower to forward and arms sideward, 2. Return, 3 and 4.

e. Hands on shoulders. Place. Stride left forward and arms forward, 1. Turn trunk left and arms sideward, 2. Return, 3 and 4.

f. Long flank ranks, hands on shoulders of man in front. Jumping in stride and close jump in drum time. Advance forward on stride jump.

g. Raise arms side-upward and inhale. Lower and exhale.

B. Game for Agility.

High Dive relay. Formation—column of files.

One man takes position in front of the file, kneeling on hands and knees. Each man in turn dives over him, rolls to his feet and runs to a designated goal. When all have dived over the man, he rises and runs to the goal. When this man reaches the goal the race ends.

C. Mass Baseball.

Throwing. Divide the sections and station five men opposite the other five and about fifteen yards apart. The throws are taught first by having the first man in each section throw the ball to the first man opposite. This man returns the ball to the man next to the first thrower and so on. This requires one ball for each section.

Practice the overhand throw, side arm throw and underhand throw until all the men can throw properly. Then widen the distance. This practice does not require much space and a number of sections may practice on one floor.

67. Sixty-seventh Day.

A. Calisthenics.

a. Swing arms side-upward, 1. Hands on shoulders, 2. Return, 3 and 4.

b. Arms to thrust bend. Raise left leg sideward, 1. Close and bend knees deep, 2. Return, 3 and 4.

c. Combine Ex. 1 and 2.

d. Hands on shoulders. Place. Stride left sideward, 1. Turn trunk left, 2. Bend upper trunk back and arms sideward, 3. Return, 4, 5, 6.

e. Hands on hips. Place. Place left foot forward, 1. Lunge left sideward, 2. Bend to left and arms upward, 3. Return, 4, 5, 6.

f. Jumping in place with raising the knees forward. Get high into the air. Begin, 1-2-3, etc.

g. Deep breathing.

B. Game for Agility.

A performs a back roll over B's back.

Position: A and B are standing back to back, hands locked above head in ordinary hand shaking grip.

Movement: B performs an ordinary forward body bend at the same time carrying the

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weight with his arms. A flexes thighs and performs a back roll over B's back, landing on the ground in standing position facing B.

C. Mass Baseball.

Catching. In number 1 all the emphasis is placed on the proper throw. Next place the emphasis upon catching the ball in the proper manner and then upon catching it in such a way as to get the throw away properly and quickly. This should be practiced at different distances.

68. Sixty-eighth Day.

A. Calisthenics.

a. Raise arms sideward, 1. Three-fourths arm circle left outward to left arm upward. (Right remains at sideward), 2. Three-fourths arm circle right outward to right arm upward (both arms are now upward), 3. Lower both arms, 4.

b. Hands on hips. Place. Layout left forward, 1. Return, 2. Same right.

c. Combine Ex. 1 and 2 with layout on counts 1 and 4.

d. Bend knees deep and arms forward, 1. Straighten the knees, raise the left leg backward. Lower trunk forward and arms sideward, 2. Return, 3 and 4.

e. Arms to thrust. Bend. Turn trunk left and thrust right arm forward, 1. Turn trunk right and thrust left arm forward, 2. Continuous for 32 counts.

f. Running in place with knee raising forward. Increase speed gradually.

g. Raise arms forward and sideward and inhale. Lower arms and exhale.

B. Games for Agility.

A performs a straddle vault over B's head assisted by a crotch lift from B.

Position: A standing at right side of B with hands resting on B's head, B stands with feet apart, right hand between A's legs and resting palm on A's seat.

Movement: A performs an ordinary straddle vault (post vault) over B's head, giving a strong push downward with the arms. B assists in the flight with a strong lift and push away as A jumps. (Always aim to gain in height. Competition may be arranged and used for the group.

C. Fielding Ground Balls.

Using the same formation as in the preceding lessons have the ball rolled to each man and insist that he keep his eye on the ball until it is in his hands. It is hard for young ball players to learn to do this and much attention will have to be given to the right technique of picking up ground balls. After the ball is picked up it should be rolled back to the next man opposite.

69. Sixty-ninth Day.

A. Calisthenics.

a. Fall out left forward and bend arms to thrust, 1. Thrust arms sideward, 2. Return, 3 and 4.

b. Stride left sideward and place hands on shoulder, 1. Bend upper trunk backward and arms sideward, 2. Return, 3 and 4 (slowly).

c. Stride left side and bend arms to thrust, 1. Lower trunk forward and thrust arms sideward, 2. Return, 3 and 4.

d. Straddle left sideward and arms side-upward, 1. Turn trunk left, 2. Lower trunk forward, 3. Raise, 4. Lower, 5. Raise, 6. Turn

trunk forward, 7. Position, 8.

e. Hand stand with assistance. Couples facing each other No. 1. Bend right knee and place left foot backward, hands on floor, 1. Leg swing to hand stand, 2. No. 2. Stride left forward and arms forward, 1. Grasp No. 1's ankles, 2. Return, 3 and 4. Reverse.

f. To lying rearways. Fall. To a stand, jump. Repeat, shortening the reaction time.

g. Deep breathing.

B. Games for Agility.

Long dive and forward roll.

Positions: B in position on hands and knees. Left side toward A, A 10 paces distant from B.

Movement: A runs toward B, dives over him head first, lands on hands, quickly bends head forward, striking shoulders *first* to the ground and the momentum of his body carries him up to his feet. The feet are held close to the seat.

Note. It will aid in the finish of the roll, if the performer grasps the leg about the middle of the shin after his shoulders are solid on the ground. As the performer gains expertness, two men may be placed alongside, then three and so on. It finally develops into a competitive long distance dive.

C. Mass Baseball.

Bunting. Line section up with one man as pitcher, one as catcher and one as batter, while the others play in the infield. As soon as one man has bunted he is replaced by one of the men in the field. Frequently change pitchers and catchers so that all will

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have practice, not only in bunting but in pitching, catching and in fielding bunted balls as well. Men will learn to bunt a play ground ball in a short time when they probably would not learn to bunt a baseball for a long time.

70. Seventieth Day.

A. Calisthenics.

a. Swing left leg forward and arms forward, 1. Return, 2. Left leg sideward, and arms sideward, 3. Return, 4. Same right. Alternate.

b. Rise on toes, swing arms fore-upward, 1. Bend knees deep and lower arms to sideward, palms up, 2. Return, 3 and 4.

c. Turn trunk left, hand in front of shoulders, 1. Lower trunk forward and arms sideward, 2. Return, 3 and 4. Same right.

d. Bend trunk left and arms sideward, 1. Bend right, 2. Left, 3. Straighten, 4. Same starting right.

e. Fall to squat stand, 1. Straighten legs backward, 2. Jump to straddle stand. Knees straight, hands remaining on floor, 3. Return, 4, 5, 6.

f. Running in place with raising arms forward—sideward—and upward on command.

g. Deep breathing.

B. Games for Agility.

A performs a straight leg-lift back somersault.

Position: A standing three paces from B and facing B's left. B in stride stand position.

Movement: A walks forward and places right leg in B's grasp. B grasps with the right hand at the ankle, left hand about three inches in front of the buttocks. A jumps well up from the left leg, pushes down hard with

the right leg (straight) and performs a back somersault. B lifts hard and helps in the turning.

Note. Two men called "spotters" should stand on either side of A to grasp by the arm on either side and assist. This is a protective measure and both men may be gradually eliminated until the performer is able to accomplish it alone.

C. Mass Baseball.

High low. One man is the batter and the others line up in a line facing him. One man tosses the ball to the batter and he hits it to one of the fielders. The man either tosses it back to the batter or throws it to another fielder who may toss it to the batter or throw it to another man. This is splendid practice in picking up the ball and is a fine quickening exercise since all of the men must be alert because they do not know when the ball will be bunted to them or when some one may toss the ball to them. Change batters frequently.

71. Seventy-first Day.

A. Calisthenics.

a. Bend knees half deep and arms to thrust, 1. Straighten knees, and raise left leg sideward and arms sideward, 2. Return, 3 and 4.

b. Step left forward and arms forward, 1. Bend upper trunk backward and arms sideward, palms up, 2. Return, 3 and 4.

c. Stride left forward and hands on shoulders, 1. Raise heels and arms sideward, 2. Return, 3 and 4.

d. Swing arms forward upward, 1. Bend trunk forward and touch floor, 2.

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Return, 3 and 4.

e. Lunge left sideward and place hands on hips, 1. Lower trunk forward and arms sideward, 2. Return, 3 and 4.

f. Jump to side stride stand and clap hands in rear of body, 1. Jump to close stand and clap hands over head, 2. Continuous.

g. Deep breathing.

B. Games for Agility.

A performs back somersault from a neck lift from B.

Positions: B stands directly behind A. A stride stand.

Movement: B bends forward, places head between A's legs, arms swung back, palms up. A falls backward, head well back, B grasps A's shoulders as B straightens back and comes to erect position. A lights on ground on feet at rear of B.

Note. The hands are placed under A's shoulders merely as a protection in learning. With practice A can be given a definite throw or flight into the air.

C. Mass Baseball.

Strategy of baseball.

These suggestions will apply in most cases. Of course there will be times when these rules should be varied.

a. Station men on each base and at short stop, one as a pitcher, one as a catcher and the rest batters. Send one man to first to act as a runner and give him the following instructions: 1. with no one out do not steal; 2, with one out steal; 3, with two out do not steal. Before the ball is pitched the section leader calls the play and the man on first executes it according to the foregoing instructions. Practice all of the men in this play and have them think of the exceptions of the rules mentioned.

b. Man on second: 1, with no one out do not steal, but with one out try to steal; with two out do not steal. As in number 1, give all men practice under these conditions, the leader calling the play each time. A great deal of time should be spent in learning how to get a lead and when.

c. Man on third, 1, with no one out or 2, with one out do not attempt to steal home; 3, with two out and a weak batter up, try a steal. Change the men about and give them all a chance to try these plays.

d. Station men on first and second base. Practice the double steal with one out or two outs, but not when no one is out. Men should be required to figure out when this rule does not hold.

e. Runners on second and third. If there are two out attempt to steal, if batter is weak and if pitcher gives an opportunity. Do not attempt it with no one out or with one out.

f. Runners on first and third. Instructions are that with no one out and the team three or more runs behind do not steal second, with no one out, steal second.

g. Runner on first. First baseman has ball, runner should practice sliding.

h. With a man on third and no one out, if the ball is hit to the infield, do not run home; with one out or two out, run home.

i. If a man is caught between bases, have him try to get

a base without being caught and practice base men in working this play properly.

j. If there is a man on first, play hit and run play. Runner starts to run with the pitch and batter hits the ball wherever he can.

k. If there is a man on first, bunt him to second. Practice all men both as batters and runners.

l. If there is a man on second with no one out, have batter bunt the man to third.

m. Squeeze play. This is a good play to practice with a playground ball.

Conclusion.

These and many more plays may be practiced on a limited area with a number of sections using playground balls. Where there is plenty of room and after the men have learned the fundamentals with the large ball, practice the same things with a baseball on the regular diamond.

72. Seventy-second Day.
Physical Efficiency Test.
1. 100-yard run in 13 1/5 seconds.
2. Running broad jump 14 feet.
3. Climb 8 ft. fence in 6 seconds.
4. Throw baseball from home plate to second base through an 8 ft. target.

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LACROSSE

(Concluded from page 12)

from one goal to the other: Goalkeeper, Point, Cover Point, 1st Defense, 2nd Defense, 3rd Defense, Center, 3rd Attack, 2nd Attack, 1st Attack, In Home and Out Home.

This shows swerving left to right. The pivot should be on the right heel.

OFFENSIVE ATTACK PLAY

If your team mate is advancing the ball toward you from the right, you should withdraw to the left, and vice versa. Always draw off to the opposite side from which the ball is being advanced. When on the offensive the attack makes the move and the defense endeavors to check this move.

RULE OF ATTACK

The system of drawing off to one side or the other is the fundamental rule of the attack system. Players should never be still during a game. When carrying the ball always plunge hard when going to the goal.

GOAL SHOOTING

Shoot accurately and hard. Vital spots or areas for scoring are along the top and sides of the goal. A swift ball line opposite a goalkeeper's head or waist is the most difficult to stop.

SYSTEM OF DEFENSE

Several fundamentals to be remembered are: 1. Never allow an opponent to remain between you and your goal. This is most important. 2nd. Cover player for player, and keep them away from goal as far as possible. 3rd. Never let a player get an unmolested shot at your goal. 4th. Almost equally important as the first fundamental is the necessity of always cutting in as straight and as fast as possible, ahead of the ball if it has gone past you.

STOPPING AN ATTACK PLAYER

Take up a position in front of the on-coming player and wait, balanced easily, ready to check either way. If you charge, he has the advantage, inasmuch as it is necessary to recover before you can check in the opposite direction.

POSITION OF ATTACK WHEN UNCOVERED

If uncovered, do not take a position that will place the opponent's defense in a direct line between yourself and the player who is about to pass to you. A man must not stand still or create an opening; the proper position should be so that the ball could be passed on either side of the defense man.

COACHING FROM BEHIND

It is imperative that the defense players coach the players ahead of them when covering the opponent's attack players man for man.

STOPPING A DODGER

Move quickly until within 15 feet of a dodger, slow down or stop and wait for his next move. Take the body, and your checking the ball will take care of itself. Always body check first, then take care of his stick and ball.

POINT AND COVER POINT'S POSITION

Point should make a player

shoot from as far out as possible and Cover Point works with Point. The work should be divided equally. The most important thing to keep in mind is not to get drawn out of position.

GOAL-KEEPER'S POSITION

This man should be able to handle a stick to the acme of perfection; he should be absolutely fearless and should possess lots of determination. Good eyesight and agility are also important factors.

TEAM PLAY

There is no room for an individual in lacrosse. There must be co-operation and self denial on the part of the players. In many situations a player should not attempt individual play, but should pass the ball and allow another to score. A team will never be successful until its players appreciate this to the extent of practicing it.

Q. In the start of a dash one man breaks over and pulls another man with him. The second man started almost simultaneously with the first. Should the second man be set?

A. Yes. Any man who touches the ground in front of the starting line before the gun is fired or the starter orders the men off their marks, should be set. In cases like this the starter should give the command off your marks just as soon as a man breaks over. This gives the others a chance to relax.

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SCHOLARSHIP VS. PHYSICAL PERFORMANCE

(Continued from page 29)

cally are, in general, the high classes scholastically, and the low classes physically are, in general, the low classes scholastically.

3. That 64.6 per cent of those failing in promotion in school work were unable to pass two of the prescribed physical events of even an average performance aim.

4. That scholastic deficiency goes hand in hand with mental deficiency.

A report of the relative scholastic standings of student groups at the University of Washington in 1921-22 places Terry Hall highest by a considerable margin over all other groups as well as over the student group as a whole. Terry Hall represents a group of Varsity athletes who lived for the year under the strictest hygienic conditions, and the best hygienic environment, and the group as whole probably represented the peak of athletic skill.

Students participating in athletics do not always obtain the highest scholastic grades, according to the following statistics prepared at Harvard in 1921:

A comparison of the grades of players with those of students not participating in athletics, showed that the players, though they endeavored to obtain grades which would assure their continuance on the football teams, had failed to obtain distinction in as large a proportion as other undergraduates. The proportion of A's obtained by players is about half that secured by non-participants.

Percentage of Courses for players and non-players in which indicated grade was received:

Men in Sophomore, Junior and Senior Classes

	A	B	C	D	E
Non players	9.1	29.6	45.2	12.6	3.5
Players	4.7	25.0	50.4	16.7	3.2

Men in Freshmen Class

	A	B	C	D	E
Non players	9.7	25.1	43.9	16.2	5.1
Players	5.4	23.5	49.4	17.6	4.1

If any conclusion could be made here it would be that the playing group were of average scholastic ability, that a few good athletes had a low scholastic grade and that but few students of the highest scholastic standing showed exceptional athletic ability, which would seem to agree with the study made by Mr. Metcalf at Columbia, referred to earlier in this article.

Reinhold W. Goll, supervisor of physical education in the Philadelphia schools, carried on an interesting study to determine if any correlation existed between mental and physical ability. As a result of his study he found the coeffcient of correlation to be .115, which means practically no correlation.

Mr. Goll used an intelligent quotient obtained in a group test and doubts whether the test measured intelligence, or school progress, or ability in English. Two hundred thirteen cases only were studied. A study of such a small group would not appear sufficient to justify any conclusions. Girls and boys were grouped together. Girls of 14 and 15 years of age are not likely to give their best in a physical test.

An intelligence test given to forty-three members of the girls' basketball squad of the University of Wisconsin during the present season shows that one of squad fell below normal with an I.Q. of 97, while the remainder had I.Q.'s ranging from 104 to 125. This is not a very high rating. A comparison is interesting here. Of the two hundred thirty-five women directors in the Health Education Department of the Detroit Public Schools, the average I.Q. score approximates 150, while the majority fall between 140 and 160. The comparison, however, may not be a good one for there may be a variance in the test given. At any rate, it would appear improbable that out of forty-three university girls only two had an I.Q. score over 120. It would be interesting to

compare the scholastic standings of this group with their intelligent scores.

Records of the intelligence quotient scores of the girls who made the field hockey teams at the University of Minnesota last fall, with a comparison with the scores of all other girls in the different classes, have been compiled. The exact number of girls in the different classes of the university is not given with the exception of the freshmen class, which approximates 850.

The table given on the following page should be read as follows: No. 1's score in the freshman column exceeds 77 per cent of the freshmen girls who entered in 1922. To take another example, No. 8's score exceeds only 9 per cent of the freshmen girls. Or, to put it in another way, 77 per cent of the freshmen girls made poorer scores than No. 1, and only 9 per cent were poorer than No. 8. P. R. means percentile rank.

Concerning the records on the following page, Dr. J. Anna Norris, director of Physical Education for Women, at the University, says:

"You will notice that the percentile ranks of the upper classmen are considerably higher than the freshmen. I am unable to say just how much of this is due to selection and how much is due to improvement in the test score by college experience. I have some evidence which indicates that students materially improve their scores in an Opposites Test between the freshman and senior years. While I am unable to say just how much of the improvement shown in these reports is due to selection and experience, I feel quite confident that selection plays a far greater part than experience."

With the exception of the fall quarter of the freshmen year, no one is eligible to compete on a class team at the University of Minne-

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RECORDS OF THE INTELLIGENCE QUOTIENTS
GIRLS' CLASS HOCKEY TEAMS, 1922

UNIVERSITY OF MINNESOTA

Freshmen	P. R.	Sophomores	P. R.	Juniors	P. R.	Seniors	P. R.
1	77	1	92	1	25.5	1	68
2	73	2	60.5	2	99.5	2	74
3	66	3	93.5	3	72	3	79.5
4	18	4	72	4	77	4	96
5	12	5	95.5	5	93	5	96.5
6	71	6	77	6	69	6	64
7	16	7	50.5	7	45	7	68
8	9	8	96.5	8	82	8	97.5
9	48	9	37	9	85	9	92.5
10	58	10	34.5	10	65.5	10	64
11	95					11	49
12	—		—		—		—
Mean	53		77		79		83

sota, who has not a C average in scholastic grade. Satisfactory scholarship, then, is the basis of selection and all of the members of the above teams have a grade of C or better.

Intelligence records on the Vassar College hockey squads for 1922 gives not only the relative standing, according to the mental test, with other members of the class, but also their rank order in class, and the relative scholastic grade. The Thurston test was used in determining the intelligence quotient.

The academic quartile standing for the freshmen class was not obtainable. A comparison of the mental test ranking of the players with their scholastic ranking shows that the seniors stood higher scholastically than mentally, the juniors approximately the same in both rankings, while the scholastic ranking of the sophomores is again much higher. No comparison can be made in the freshmen group.

A physical ability test is given twice during each year to all of the boys in the sixth, seventh, and eighth grades in the public schools of Detroit. The number taking the test varies from twelve to fifteen thousand. The events used in the test are the following: Chinning, Standing and Running Broad Jump, Shot Put and Overhead Shot, One Hundred Yard Dash, Standing and Running Hop, Step, and Jump, Sit-Up, Floor Dip, and Running High Jump.

Average performances obtained from these records show that boys of the same age have a higher physical performance directly comparable to their scholastic grading. For example, the average performance for a fourteen-year-old boy in the B6 grade in the Standing Broad Jump is 68¼ inches, 70 inches in the A6, 70 in the B7, 71½ in the A7, 72¾ in the B8, and 73¼ in the A8. The same comparison holds true in all of the other events, the age and the number of boys being constant.

Some interesting figures on the relation of physical growth to physical performance show that the farther advanced a boy is in his scholastic grade the greater is his physical development. The weight of the fourteen-year-old boy in the B6 grade averages 93.2 pounds, the average increasing for each grade to 102.4 pounds in the A8 grade. The average height increases in this same group from 59½ inches in the B6 grade to 63½ inches in the A8 grade.

The greatest variation in both physical growth and physical performance is shown in exceptionally advanced or mentally retarded pupils. For example, a ten-year-old boy in the eighth grade has an average physical performance

(Concluded on page 44)

BATTING

(Concluded from page 9)

good one, too, but he will never hit until he learns to cut out his unnecessary motions.

Fifth: The batter should learn to swing with a determination that means drive. He should take a real "cut" at the ball and in college ball especially on the first two strikes. If necessary, he may choke the bat more on the third strike than on the other two. The swing must, as much as possible, be on the level, must be smoothly executed and there must be a full follow through. To understand what is meant by a follow through and a smooth swing, watch a finished golf player's stroke.

In conclusion, I believe that there is a lot more to batting than the average fan or player realizes and the coach who is willing to spend time on this scientific feature of the game will develop a "wrecking crew" that will win games for him.

DISTANCE RUNNING

(Concluded from page 8)

Plain food that agrees with the individual should be eaten. It is well not to eat too soon before working out, after working or before a race. 2. It is a good plan to take a two days' rest following a race and also a day's rest before stiff competition. 3. Smoking, drinking and anything else that will interfere with the athlete's condition should be eliminated. 4. As the runner develops he should learn to judge pace and then in a race to regulate his speed so that he will get all that is in him out of his system, and this should be planned so that he will be able to reach the finish line safely.

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SCHOLCRSHIP vs. PHYSICAL PERFORMANCE

(Concluded from page 42)

slightly higher than the boy of the same age in the sixth grade, while the sixteen-year-old boy in eighth grade has an average considerably higher than the sixteen-year-old boy in the sixth grade.

In every case, however, there appears to be a definite relation between scholastic ability as indicated by the grade in which the boy is enrolled, and average physical performance; and growth. Scholastic ability in this case either depends on physical performance, which, in turn, depends on physical development, or physical performance and growth on some characteristic abilities which make for scholastic achievement.

A complete tabulation of all results compiled in this study for the year 1920-21 is too bulky to be included in this article. The averages for boys in the thirteen and fourteen-year-old groups are given on the following page.

All figures are given in units and tenths of a unit with the exception of the time in the dash which is given in fifths.

Realizing the inadequacy of material evidence there is no attempt in this article to arrive at even probable conclusions. The object is merely to present some opinions and the results of a few studies with a hope of provoking discussion and continued investigation.

However, these questions are raised and cannot be ignored at this time:

1. Does the intelligence test measure abilities which make for successful accomplishment?
2. Is there any correlation between *mental ability* and *scholastic* accomplishment?
3. Is there a correlation between

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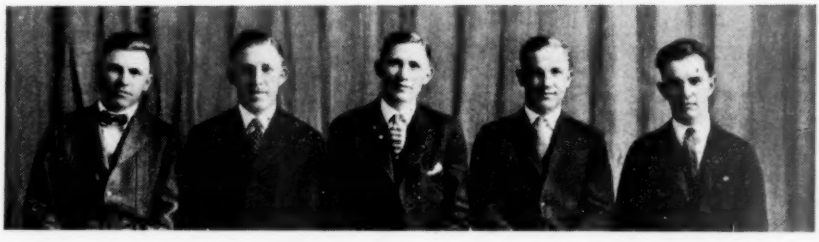

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John Bunn, Varsity Freshman Coach of Major Sports
.....Freshmen Athletics

Glenn Patrick, Varsity Wrestling Coach.....Wrestling

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Forrest C. Allen, Director of Athletics, Lawrence, Kansas

physical performance and scholastic achievement, or is there a correlation between mental ability and physical ability?

4. Would a correlation between physical performance and scholastic achievement, if proven to exist, be of more practical value than an existing correlation between mental and physical ability?

DETROIT PUBLIC SCHOOLS
DEPARTMENT OF HEALTH EDUCATION
CITY AVERAGES (BOYS) 1920-21.

	13-YEAR-OLD GROUP						14-YEAR-OLD GROUP					
	B6	A6	B7	A7	B8	A8	B6	A6	B7	A7	B8	A8
No. of Boys	324	353	411	385	187	100	183	213	275	285	243	248
Weight	86.5	88.8	88.0	90.0	90.7	93.5	93.2	96.8	96.3	98.4	99.8	102.4
Height	57	57.2	58.5	58.7	59.5	60	59.5	60.2	60.2	61	61	61.7
Chin	3.8	3.6	3.6	3.7	3.8	4.4	4.3	4.5	4.2	4.5	4.6	4.8
Standing Bd. Jump	66	67.2	67.5	68	69.5	71.5	68.2	70	70	71.5	72.7	73.2
Overhead Shot, 8-lb.	18.7	18.9	18.5	18.9	19.9	19.9	20.3	21.5	20.9	20.9	21.9	22.8
100 Yards	15.2	15	15	14.4	14.4	14.3	14.4	14.3	14.3	14.2	14.2	14.1
Sit-up	12.2	11.9	12.2	12.4	14.1	15.7	12.6	13	14.3	14.2	16.5	16.4
Running Bd. Jump	9.2	9.3	9.6	9.7	9.8	9.9	9.7	9.8	9.9	10.2	10.3	10.4
High Jump	3.2	3.4	3.2	3.3	3.4	3.5	3.4	3.5	3.4	3.5	3.6	3.7
Standing H. St. Jp.	15.8	15.9	15.7	16.2	16.4	16.9	16	17	16.6	16.9	17.2	17.5
Running H. St. Jp.	19.9	20.6	20.7	20.9	21.4	21.9	20.6	21.2	21.3	21.9	22.3	22.8
Shot Put, 8-lb.	19.3	20.2	19.6	19.8	20.4	20.7	21.6	22.2	21.7	22.6	22.2	23.0
Dip	10.9	10.9	10.5	11.1	11.1	12.6	10.5	11.5	11.7	12.0	12.6	12.2

Q. Where may the National Collegiate Athletic Association Track and Field Rules be obtained?

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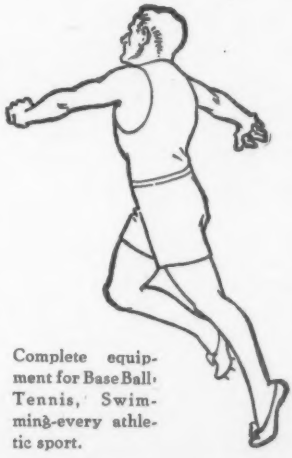

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PHYSICAL DIRECTOR OR COACH, ETC.

(Continued from page 16)

branch? The shortage of men with the necessary knowledge and experience to do corrective work is appalling. It is an important part in the field of physical education and if physical educators neglect corrective work, quasi-professional men, chiefly of mediocre education with a very superficial training, will step in to this field.

There is no reason for thinking that this work should be done by the doctors. In this age of specialization this is not within the field of medicine. The average doctor will readily admit that he is not trained to know how to treat in the field of physiotherapy. Certainly if his education along this line is not greater than the average 16 hours of physiotherapy given during his entire medical course he is not fitted for this work. Neither has he the necessary understanding of exercises, the gymnastic eye, so-called. The real eligible one is the physical director.

The average physical director or coach is not given the proper training and experience to handle this vast group of subnormal individuals. His training is the treatment of normal individuals, while statistics tell us that over 50 per cent of the school children of today are defective. Any average group of boys will show at least 20 per cent with spinal deviations. The proper use of the body is essential to health and it is the duty of the physical director to know how to treat this majority of individuals who have poor body mechanics, and who are forced to be excused from calisthenics for various and sundry defects which could, and should, be eliminated.

Far too many children reach adult life with a structural defect which should have been corrected while it was a functional defect and a potential postural weakness. Many children are excused from calisthenics for a slight heart condition while they are allowed to attend a class on the fourth floor of a building, doing more foot-pounds of work in the climbing of the stairs than they would be asked to do in their regular gymnastic work. These children are allowed to grow up as semi-invalids when proper medical gymnastics would, in many cases, eliminate their difficulty. Properly applied corrective work, based on anatomical and physiological principles, is what is needed for this increasingly large number of physical subnormal individuals.

A professor at the Royal Gymnastic Institute at Stockholm has been quoted as saying that the best teacher of calisthenics is the one who has had experience in corrective work. The field is not apart from the ordinary physical education. It teaches one to recognize individual capacities and needs, and allows the physical director or coach to take his rightful place in the field of education as an expert engineer of the normal growth and development of the child.

In summary: The field of physical education embraces the treatment of the physical subnormal.

The need for this work is as great, if not greater, than that of regular physical education, because the whole is no stronger than its weakest part, and the health of the nation is no better than that of its individuals.

Physical directors and coaches must be taught to treat the individual who is suffering from one or more of these defects which at the present time exclude him from the ordinary physical education program.

POLE VAULTING

(Concluded from page 6)

Three times a week is enough for practice. On Tuesday and Thursday the practice should be at low heights a dozen times or so,

for the correct take-off, and then on Saturday it is well to try a greater height. Most of the practice should be at low heights; this will enable the vaulter to perfect his run and to gain confidence in clearing the bar. Too much practicing at high marks is never good. Once a week is enough for high vaulting and then the greatest height should not be attempted. It is always well to quit, feeling that a greater height might have been cleared.

STEEPLE CHASING

(Concluded from page 19)

fore the race a trial at three-quarters speed over the full distance is sufficient. If a man has weak ankles or feet they should be bandaged as this event is very trying on the feet or ankles.

The Steeplechase is an open event and it offers an opportunity to all, especially cross-country men who have not the speed to compete in distance races on the flat, to make the next Olympic team. The writer will be pleased to answer the questions of anyone who may desire information on steeplechase running.

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1893-1899—George Orton, University of Pennsylvania.
1900—Alex Grant, N. Y. A. C.
1902—Al Newton, N. Y. A. C.
1905—Harvey Cohn, Irish American A. C.
M. Devaney, Millrose, A. A., the present champion.

At the Olympic games held in Paris in 1900, Orton won the Steeplechase. In the 1908 London Olympic games, J. Eisle, Princeton, came in third.

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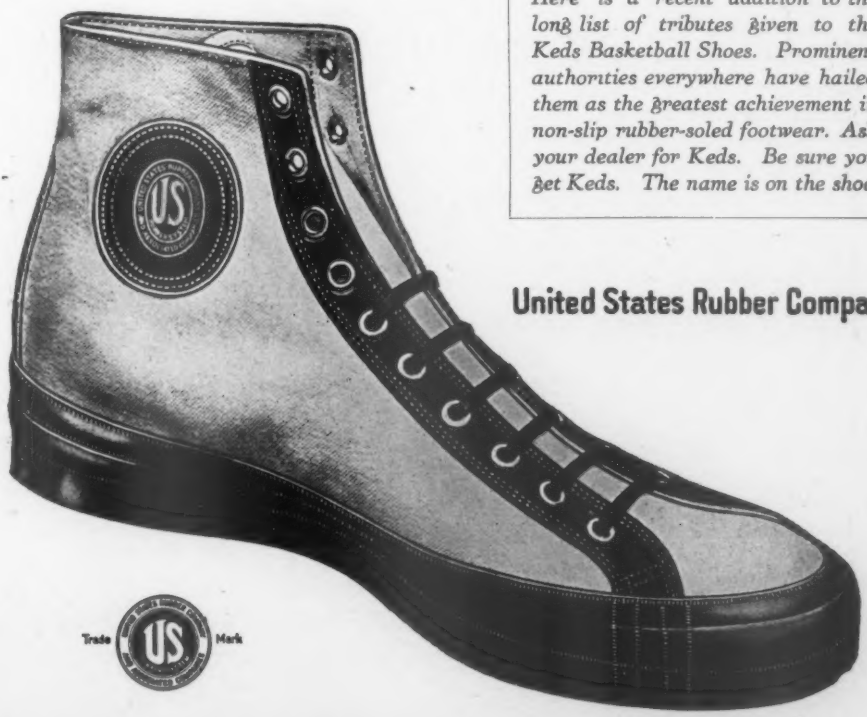

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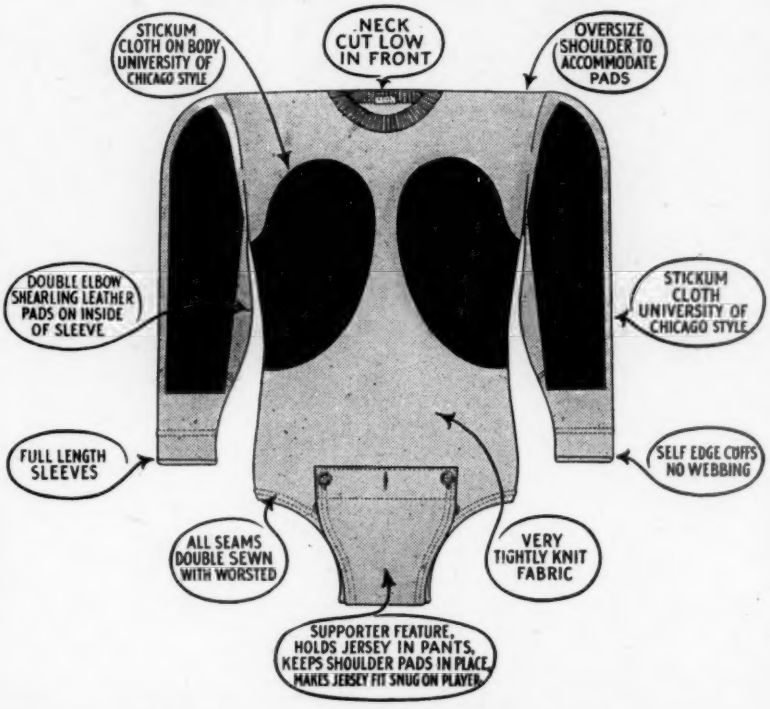
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